

Date: September 2017
Rev: VII
No. of Components: Two
Mix Ratio by Weight: 100 : 3
Specific Gravity: Part A: 2.11 Part B: 1.02
Pot Life: 2 Hours
Shelf Life- Bulk: One year at room temperature

Recommended Cure: 150°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
 150°C / 5 Minutes
 100°C / 20 Minutes

NOTES:

- Container(s) should be kept closed when not in use.
- Filled systems should be stirred thoroughly before mixing and prior to use.
- Performance properties (rheology, conductivity, others) of the product may vary from those stated on the data sheet when bi-pak/syringe packaging or post-processing of any kind is performed. Epoxy's warranties shall not apply to any products that have been reprocessed or repackaged from Epoxy's delivered status/container into any other containers of any kind, including but not limited to syringes, bi-paks, cartridges, pouches, tubes, capsules, films or other packages.
- Syringe packaging will impact initial viscosity and effective pot life, potentially beyond stated parameters.
- If product crystallizes in storage, place container in warm oven until crystallization disappears. Please refer to Tech Tip #7 on website.

Product Description: EPO-TEK® H74 is a two component, thermally conductive epoxy designed for hybrid circuit assembly including die attach, substrate attach, lid-seal, heat dissipation, and hermetic sealing in general.

Typical Properties: Cure condition: 150°C / 1 Hour Different batches, conditions & applications yield differing results.
 Data below is not guaranteed. To be used as a guide only, not as a specification. * denotes test on lot acceptance basis

PHYSICAL PROPERTIES:			
* Color (before cure):	Part A: Grey	Part B: Amber	
* Consistency:	Thixotropic paste		
* Viscosity (23°C) @ 5 rpm:	45,000-65,000	cPs	
Thixotropic Index:	2.1		
* Glass Transition Temp:	≥ 100	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):			
	Below Tg:	21	x 10 ⁻⁶ in/in°C
	Above Tg:	95	x 10 ⁻⁶ in/in°C
Shore D Hardness:	90		
Lap Shear @ 23°C:	1,656	psi	
Die Shear @ 23°C:	≥ 15	Kg	5,334 psi
Degradation Temp:	425	°C	
Weight Loss:			
	@ 200°C:	0.29	%
	@ 250°C:	0.50	%
	@ 300°C:	0.80	%
Suggested Operating Temperature:	< 350 °C (Intermittent)		
Storage Modulus:	860,430	psi	
* Particle Size:	≤ 50	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	1.3	W/mK
Volume Resistivity @ 23°C:	≥ 4 x 10 ¹²	Ohm-cm
Dielectric Constant (1KHz):	4.95	
Dissipation Factor (1KHz):	0.007	

Epoxyes and Adhesives for Demanding Applications™

This information is based on data and tests believed to be accurate. Epoxy Technology, Inc. makes no warranties (expressed or implied) as to its accuracy and assumes no liability in connection with any use of this product.

EPOXY TECHNOLOGY, INC.

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www.epotek.com

EPO-TEK® H74 Advantages & Suggested Application Notes:

- Thixotropic paste allows for good handling characteristics - it can be dispensed, screen printed or manually applied by toothpick or spatula.
- Outstanding high temperature properties and excellent solvent, chemical and moisture resistance.
- Reasonable working life with fast curing at relatively low temperatures.
- Capable of providing near-hermetic seal.
- Passes NASA low outgassing standard ASTM E595 with proper cure - <http://outgassing.nasa.gov/>
- Built-in color indicator when the product is cured. This color change varies from a tan to brown, depending upon the curing conditions. It is normal for the epoxy to turn a very dark red when subjected to wire bonding temperatures.
- Used in opto-packaging for sealing 1) fiber into the snout; 2) a ferrule seal to the package; or 3) a boot to the package. Commonly used with DIP or Butterfly packages or TO-cans.

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